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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,176	03/14/2001	Philippe Le Bars	1807.1545	5732

5514 7590 05/07/2004

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EXAMINER

PERILLA, JASON M

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 05/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/805,176

Applicant(s)

LE BARS ET AL

Examiner

Jason M Perilla

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16 is/are rejected.
- 7) ☒ Claim(s) 1-15 and 17-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4-7/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-23 are pending in the instant application.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on June 28, 2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings are objected to because some of the exemplary components of the embodiments are not labeled for a clear and comprehensive understanding of the instant invention by the drawings alone. For instance, blocks 20-25 of figure 4 and blocks 39-44, 47, and 48 should contain a text label to further clarify the embodiments of the invention according to the drawings. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The abstract of the disclosure is objected to because of the reference to figure 6. The Applicant is requested to submit an amended copy of the abstract without the reference to figure 6. Correction is required. See MPEP § 608.01(b).

6. The specification is objected to for failing to contain section headings as outlined below. The applicant is required to amend the specification to include section headings.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. ***Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading.*** If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

7. The claims generally fail to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and contain idiomatic errors. It is requested by the Examiner that the claims are amended by the Applicant to claim the embodiments of the invention as clearly as possible.

8. Claims 15, 16, 18 and 20 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on any other multiple dependent claims. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

9. Claim 1 recites the limitation "the systematic output". There is insufficient antecedent basis for this limitation in the claim.

10. Claim 4 recites the limitation "the moving average". There is insufficient antecedent basis for this limitation in the claim.

11. Claim 4 recites the limitation "the sum of the Euclidian distances". There is insufficient antecedent basis for this limitation in the claim.

12. Claim 4 recites the limitation "the closest theoretical symbol". There is insufficient antecedent basis for this limitation in the claim.

13. Claim 8 recites the limitation "the systematic output". There is insufficient antecedent basis for this limitation in the claim.

14. Claim 10 recites the limitation "the first elementary turbodecoder". There is insufficient antecedent basis for this limitation in the claim.

15. Claim 10 recites the limitation "the second elementary turbodecoder". There is insufficient antecedent basis for this limitation in the claim.

16. Claim 11 recites the limitation "the moving average". There is insufficient antecedent basis for this limitation in the claim.

17. Claim 11 recites the limitation "the sum of the Euclidian distances". There is insufficient antecedent basis for this limitation in the claim.

18. Claim 11 recites the limitation "the closest theoretical symbol". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 112

19. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

20. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 16, the specification does not provide the antecedent basis required to enable one skilled in the art to apply a digital signal processing apparatus having a device according to claims 8 to 10. The digital signal processing apparatus as embodied in each of figures 9 and 10 do not have any of the components which comprise the "device" according to any of claims 8 to 10. While one skilled in the art may be inherently enabled to use a digital signal processor to implement a method according to one of claims 1 to 7 by software, one skilled in the art is not able to utilize,

make, or envision a digital to signal processing apparatus having a device according to one of claims 8 to 10 by the specification alone.

Allowable Subject Matter

21. Indication of allowable material is made regarding claims 1-23.
22. The following is a statement of reasons for the indication of allowable subject matter:

The independent claims 1 and 8 provide for limitations including the calculation of a normalization factor. However, the normalization performed in the instant application is not normalization of peak outputs from matched filters or correlators as is common in the art. Rather, the outputs from a recursive systematic convolutional encoder are each "normalized" either individually or as part of a pair of outputs to reduce the effects of noise attributed to each of the independent encoder outputs before they are fed into the decoder.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art reference are cited to further show the state of the art with respect to recursive systematic convolutional encoders and noise reduction.

U.S. Pat. No. 5944850 to Chouly et al.

U.S. Pat. No. 5446747 to Berrou.

U.S. Pat. No. 6023783 to Divsalar et al.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M. Perilla
April 26, 2004

jmp



STEPHEN CHIN
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